

## WEST Search History





DATE: Sunday, March 21, 2004

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	<i>DB=USPT; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L23	5691898.pn. and (wireless or cordless)	1
<input type="checkbox"/>	L22	6211861.pn. and (wireless or cordless)	1
<input type="checkbox"/>	L21	6211861.pn.	1
<input type="checkbox"/>	L20	117 and usb	78
<input type="checkbox"/>	L19	4754268[uref]	84
<input type="checkbox"/>	L18	L17.ti.	21
<input type="checkbox"/>	L17	(wireless or cordless) near10 mouse	504
<input type="checkbox"/>	L16	L14.ab.	0
<input type="checkbox"/>	L15	L14.ti.	0
<input type="checkbox"/>	L14	(wireless or cordless) near10 mouse near10 (cord or cable or wire)	51
<input type="checkbox"/>	L13	(wireless or cordless) near10 mouse near10 (cord or cable or wire)	0
<input type="checkbox"/>	L12	111 and (charg\$ or recharg\$)	0
<input type="checkbox"/>	L11	(wireless) near3 mouse near3 mode	4
<input type="checkbox"/>	L10	(wire\$wireless) near5 mouse	2
<input type="checkbox"/>	L9	(wire\$wireless or cordless) near5 mouse	83
<input type="checkbox"/>	L8	L7	2
<input type="checkbox"/>	L7	Transfer Multiple Data Streams Over near3 Wire near3 Wireless Medium	2
<input type="checkbox"/>	L6	"A Technique To Transfer Multiple Data Streams Over A Wire Or Wireless Medium"	0
<input type="checkbox"/>	L5	A Technique To Transfer Multiple Data Streams Over A Wire Or Wireless Medium	805
<input type="checkbox"/>	L4	6068638.pn.	1
<input type="checkbox"/>	L3	L1 and (wireless or cordless)	54
<input type="checkbox"/>	L2	L1.ti.	1
<input type="checkbox"/>	L1	usb near5 mouse	213

END OF SEARCH HISTORY

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L22: Entry 1 of 1

File: USPT

Apr 3, 2001

DOCUMENT-IDENTIFIER: US 6211861 B1

TITLE: Tactile mouse device

Detailed Description Text (6):

Mouse 12 is coupled to the computer 14 by a bus 20, which communicates signals between mouse 12 and computer 14 and may also, in some preferred embodiments, provide power to the mouse 12. Components such as actuator 18 require power that can be supplied from a conventional serial port or through an interface such as a USB or Firewire bus. In other embodiments, signals can be sent between mouse 12 and computer 14 by wireless transmission/reception. In some embodiments, the power for the actuator can be supplemented or solely supplied by a power storage device provided on the mouse, such as a capacitor or one or more batteries. Some embodiments of such are disclosed in U.S. Pat. No. 5,691,898, incorporated herein by reference.

Detailed Description Text (35):

Mouse 12 is coupled to host computer system 14 by a bidirectional bus 20. The bidirectional bus sends signals in either direction between host computer system 14 and the interface device. Bus 20 can be a serial interface bus, such as an RS232 serial interface, RS-422, Universal Serial Bus (USB), MIDI, or other protocols well known to those skilled in the art; or a parallel bus or wireless link. For example, the USB standard provides a relatively high speed interface that can also provide power to actuator 18.

Detailed Description Text (49):

Power supply 120 can optionally be included in mouse 12 coupled to actuator interface 116 and/or actuator 18 to provide electrical power to the actuator, or be provided as a separate component. Alternatively, and more preferably, power can be drawn from a power supply separate from mouse 12, or power can be received across a USB or other bus. Also, received power can be stored and regulated by mouse 12 and thus used when needed to drive actuator 18 or used in a supplementary fashion. Because of the limited power supply capabilities of USB, a power storage device may be required in the mouse device to ensure that peak forces can be applied (as described in U.S. Pat. No. 5,929,607, incorporated herein by reference). For example, power can be stored over time in a capacitor or battery and then immediately dissipated to provide a jolt sensation to the mouse. Alternatively, this technology can be employed in a wireless mouse, in which case battery power is used to drive the tactile actuator. In one embodiment, the battery can be charged by an electric generator on board the mouse, the generator driven by the user's motions of the mouse device. For example, a mouse ball or cylinder can turn a frictional roller or shaft that is coupled to and recharges the generator.